

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A computer program product tangibly embodied in a storage medium, the computer program product including instructions that when executed generate a graphical user interface on a display device for using a computer to display and modify a data analysis process, the graphical user interface comprising:
 - a process list display configured to:
 - display identifications of data analysis processes, and
 - receive user input selecting an entry of an identification of a data analysis process;
 - and
 - a data analysis display configured to:
 - display representations of sub-processes included in the data analysis process identified by the selected entry, the displayed representations of sub-processes including:
 - a representation of a data mining sub-process for creating a data attribute by performing an analytical process on data from an analytical processing data source,
 - a representation of at least one of (1) an extraction sub-process for extracting data from a first transactional data source, (2) a transformation sub-process for transforming the extracted data from a data format used by the first transactional data source to a data format used for analytical processing, and (3) a loading sub-process for loading data into the analytical processing data source, and
 - a representation of a deployment sub-process for storing the created data attribute in one of the first transactional data source, a second transactional data

source other than the first transactional data source, or a second analytical data source used for analytical processing, and
display connections between the displayed sub-processes, the connections indicating a sequence with which the displayed sub-processes are performed when performing the data analysis process.

2. (Cancelled)
3. (Original) The computer program product of claim 1 wherein each type of the sub-processes displayed in the data analysis process display is represented by a different shape than shapes representing other types of sub-processes displayed in the analysis sub-process display.
4. (Previously Presented) The computer program product of claim 1 wherein the graphical user interface further comprises controls configured to add types of sub-processes to the data analysis process displayed in the data analysis display.
5. (Previously Presented) The computer program product of claim 4 wherein the controls comprise one or more of a control configured to add an extraction sub-process, a control configured to add a load sub-process, a control configured to add an analysis sub-process, and a control configured to add a deployment sub-process.
6. (Previously Presented) The computer program product of claim 1 wherein the graphical user interface further comprises a control configured to display information about status of the data analysis process.
7. (Previously Presented) A computer program product tangibly embodied in a storage medium, the computer program product including instructions that when executed generate a graphical user interface on a display device for using a computer to define a data analysis process, the graphical user interface comprising:

a sub-processes display configured to:

receive user input indicating an entry of an identification at least one of (1) an extraction sub-process for extracting data from a data source, (2) a transformation sub-process for transforming the extracted data from a data format used by the data source to a data format used for analytical processing, (3) a loading sub-process for loading data into a data source that is used for analytical processing, (4) a data mining sub-process for creating a data attribute by performing an analytical process on data from the analytical processing data source, and (5) a deployment sub-process for storing a data attribute created in another sub-process, and

receive user input indicating an entry identifying a computer program to be associated with each of the identified sub-processes such that execution of the computer program causes the identified sub-process to be performed; and

a common data display configured to receive user input indicating an entry of selected meta-data elements to be used in the data analysis process wherein each meta-data element is associated with a corresponding data element in the data source and with a corresponding data element in the analytical processing data source.

8. (Original) The computer program product of claim 7 wherein:
the data source is a transactional data source, and
the deployment sub-process stores the created data attribute in the transactional data source.

9. (Original) The computer program product of claim 8 wherein the deployment sub-process stores the created data attribute in one of the data source, a second transactional data store other than the transactional data source, or a second analytical data store other than the analytical data used for the data mining sub-process.

10. (Previously Presented) The computer program product of claim 7 wherein the graphical user interface is configured to receive user input defining how a particular error is to be processed during the data analysis process.

11. (Previously Presented) The computer program product of claim 7 wherein the graphical user interface is configured to receive user input identifying a computing device or a component of a computing device to be used during the execution of one of the identified sub-processes.

12. (Previously Presented) The computer program product of claim 7 wherein the graphical user interface is configured to receive user input identifying an order in which each of the identified sub-processes are to be performed when performing the data analysis process.

13. (Previously Presented) The computer program product of claim 7 wherein the graphical user interface is configured to receive user input identifying when the data analysis process is to be initiated.

14. (Previously Presented) A computer-implemented method for receiving information from a user for use in a data analysis process, the method comprising:
receiving user input identifying a data analysis process;
receiving multiple sub-process user inputs, each sub-process user input identifying a sub-process associated with the data analysis process, wherein:

at least one of the identified sub-processes is (1) an extraction sub-process for extracting data from a first transactional data source, (2) a transformation sub-process for transforming data extracted from the first transactional data source from a data format used by the first transactional data source to a data format used for analytical processing, (3) a loading sub-process for loading data into an analytical processing data source that is used for analytical processing, or (4) a data mining sub-process for creating a data attribute by performing an analytical process on data from the analytical processing data source, and

at least one of the identified sub-processes is a deployment sub-process for storing a data attribute created in another of the identified sub-processes; and

storing the input identifying the data analysis process in association with the inputs identifying the multiple sub-processes for use in the data analysis process, wherein

the deployment sub-process stores the created data attribute in one of the first transactional data source, a second transactional data source other than the first transactional data source, or a second analytical data source used for analytical processing.

15-16. (Cancelled)

17. (Previously Presented) The method of claim 14 wherein one of the sub-process user inputs comprises a sub-process user input identifying a computer program that causes the identified sub-process to be performed.

18. (Previously Presented) The method of claim 14 further comprising receiving user inputs of meta-data elements to be used in the data analysis process wherein each meta-data element is associated with 1) a corresponding data element in the first transactional data source, 2) a corresponding data element in the analytical processing data source, or 3) both a corresponding data element in one of the first and second transactional data sources and a corresponding data element in the analytical processing data source.

19. (Original) The method of claim 14 wherein each of the multiple sub-processes use a common message format.

20. (Previously Presented) The method of claim 14 further comprising receiving user input defining how a particular error is to be processed during the data analysis process.

21. (Previously Presented) The method of claim 14 further comprising receiving user input identifying a computing device or a component of a computing device to be used during the execution of one of the multiple sub-processes.

22. (Previously Presented) The method of claim 14 further comprising receiving user input identifying an order in which the multiple sub-processes are to be performed when performing the data analysis process.

23. (Previously Presented) The method of claim 14 further comprising receiving user input identifying when the data analysis process is to be initiated.

24. (Previously Presented) The method of claim 14 wherein the deployment sub-process comprises a first deployment sub-process for storing a data attribute created in another of the identified sub-processes in a first data store and the multiple identified sub-processes further include a second deployment sub-process for storing the data attribute in a second data store.

25. (Original) The method of claim 24 wherein the first data store is the same as the second data store.

26. (Original) The method of claim 24 wherein the first data store is different from the second data store.

27. (Original) The method of claim 26 wherein the first data store comprises a transactional data store and the second data store comprises an analytical data store.

28. (Previously Presented) A computer program product tangibly embodied in a storage medium, the computer program product including instructions that, when executed, receive information from a user for use in a data analysis process, and the computer program product being configured to

- receive user input identifying a data analysis process;
- receive multiple sub-process user inputs, each sub-process user input identifying a sub-process associated with the data analysis process, wherein:

- at least one of the identified sub-processes is (1) an extraction sub-process for extracting data from a first transactional data source, (2) a transformation sub-process for transforming data extracted from the first transactional data source from a data format used by the first transactional data source to a data format used for analytical processing, (3) a loading sub-process for loading data into an analytical processing data source that is used for analytical

processing, or (4) a data mining sub-process for creating a data attribute by performing an analytical process on data from the analytical processing data source, and

at least one of the identified sub-processes is a deployment sub-process for storing a data attribute created in another of the identified sub-processes; and

store the input identifying the data analysis process in association with the inputs identifying the multiple sub-processes for use in the data analysis process, wherein

the deployment sub-process stores the created data attribute in one of the first transactional data source, a second transactional data source other than the first transactional data source, or a second analytical data source used for analytical processing.

29-30. (Cancelled)

31. (Previously Presented) The computer program product of claim 28 wherein one of the sub-process inputs comprises a sub-process user input identifying a computer program that causes the identified sub-process to be performed.

32. (Previously Presented) The computer program product of claim 28 further configured to receive user inputs of meta-data elements to be used in the data analysis process wherein each meta-data element is associated with 1) a corresponding data element in the first transactional data source, 2) a corresponding data element in the analytical processing data source, or 3) both a corresponding data element in one of the first and second transactional data sources and a corresponding data element in the analytical process data source.

33. (Previously Presented) The computer program product of claim 28 wherein the deployment sub-process comprises a first deployment sub-process for storing a data attribute created in another of the identified sub-processes in a first data store and the multiple identified sub-processes further include a second deployment sub-process for storing the data attribute in a second data store.

34. (Previously Presented) A system for receiving information from a user for use in a data analysis the system comprising a processor connected to a storage device and one or more input/output devices, wherein the processor is configured to:

- receive user input identifying a data analysis process;
- receive multiple sub-process user inputs, each sub-process user input identifying a sub-process associated with the data analysis process, wherein:

- at least one of the identified sub-processes is (1) an extraction sub-process for extracting data from a first transactional data source, (2) a transformation sub-process for transforming data extracted from the first transactional data source from a data format used by the first transactional data source to a data format used for analytical processing, (3) a loading sub-process for loading data into an analytical processing data source that is used for analytical processing, or (4) a data mining sub-process for creating a data attribute by performing an analytical process on data from the analytical processing data source, and

- at least one of the identified sub-processes is a deployment sub-process for storing a data attribute created in another of the identified sub-processes; and

- store the input identifying the data analysis process in association with the inputs identifying the multiple sub-processes for use in the data analysis process, wherein

- the deployment sub-process stores the created data attribute in one of the first transactional data source, a second transactional data source other than the first transactional data source, or a second analytical data source used for analytical processing.

35. (New) A computer program product tangibly embodied in a storage medium, the computer program product including instructions that when executed generate a graphical user interface on a display device for using a computer to display and modify a data analysis process, the graphical user interface comprising:

- a first graphical icon representing an extraction sub-process for extracting data from a first transactional data source;

- a second graphical icon representing a loading sub-process for loading data into an analytical processing data source;

a third graphical icon representing a data mining sub-process for creating a data attribute by performing an analytical process on data from the analytical processing data source;

a fourth graphical icon representing a deployment sub-process for storing the created data attribute; and

graphical connections between the displayed graphical icons, the graphical connections indicating a sequence with which the sub-processes represented by the displayed graphical icons are performed,

wherein information representing the sequence with which the sub-processes represented by the displayed graphical icons are performed is stored in a storage medium for later access and execution of the sub-processes in the represented sequence.

36. (New) The computer program product of claim 35 wherein the first graphical icon, the second graphical icon, the third graphical icon, and the fourth graphical icon are each displayed as different shapes.

37. (New) The computer program product of claim 35, wherein the extraction sub-process is a first extraction sub-process, the loading sub-process is a first loading sub-process, and the deployment sub-process is a first deployment sub-process, further comprising:

a fifth graphical icon representing a second extraction sub-process for extracting data from a first transactional data source;

a sixth graphical icon representing a second loading sub-process for loading data into an analytical processing data source; and

a seventh graphical icon representing a second deployment sub-process for storing the created data attribute.

38. (New) The computer program product of claim 37 wherein:

the graphical connections connect the second and sixth graphical icons to the third graphical icon to indicate that a flow of the data analysis process from each of the first and second loading sub-processes leads to the data mining sub-process; and

the graphical connections connect the third graphical icon to the fourth and seventh graphical icons to indicate that the flow of the data analysis process from the data mining sub-process leads to each of the first and second deployment sub-processes.

39. (New) The computer program product of claim 35 further comprising a fifth graphical icon representing a transformation sub-process for transforming the extracted data from a data format used by the first transactional data source to a data format used for analytical processing.

40. (New) The computer program product of claim 35 wherein the fourth graphical icon represents a deployment sub-process for storing the created data attribute in one of the first transactional data source, a second transactional data source other than the first transactional data source, or a second analytical data source used for analytical processing.